UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

March 1964

Part II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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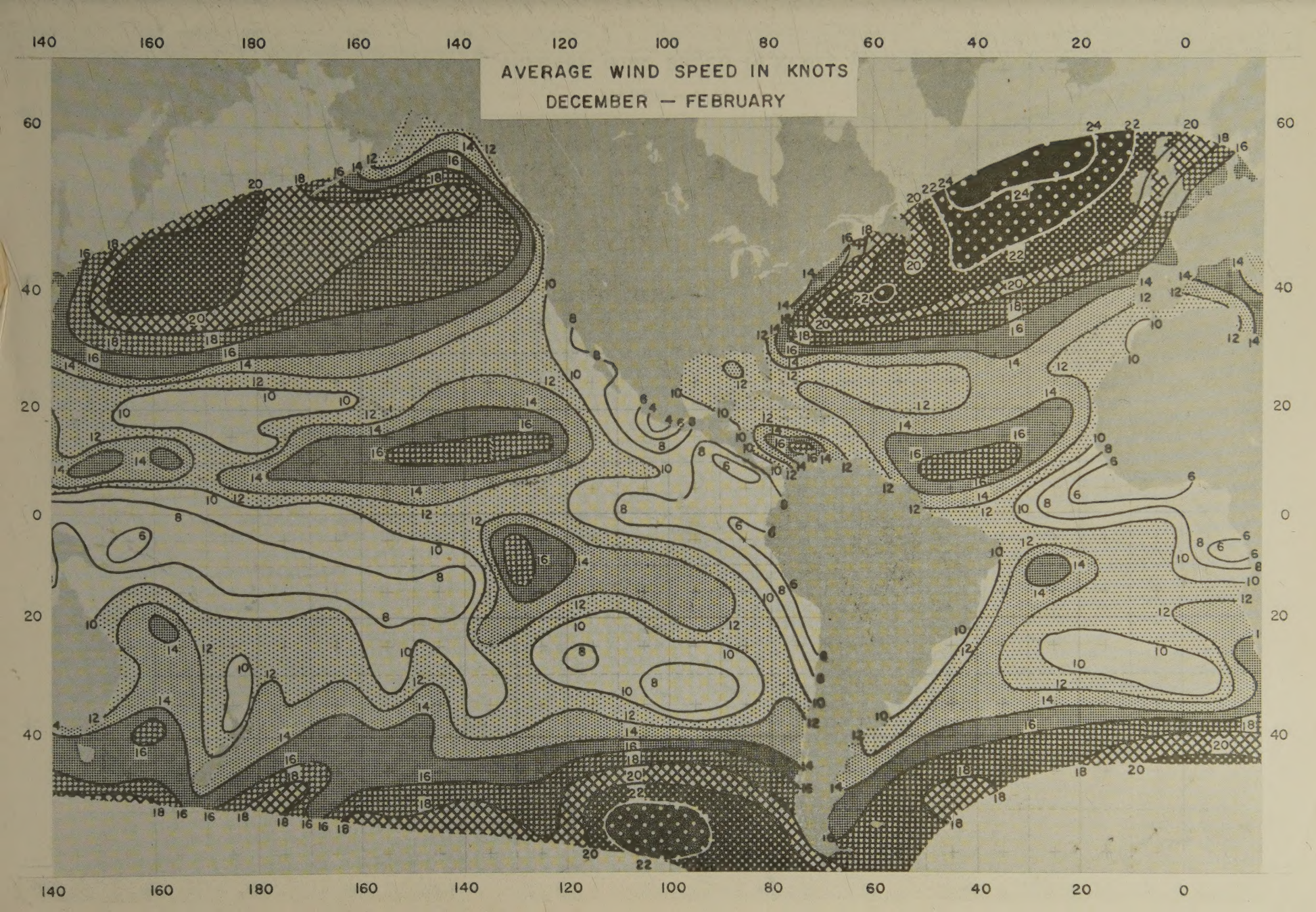
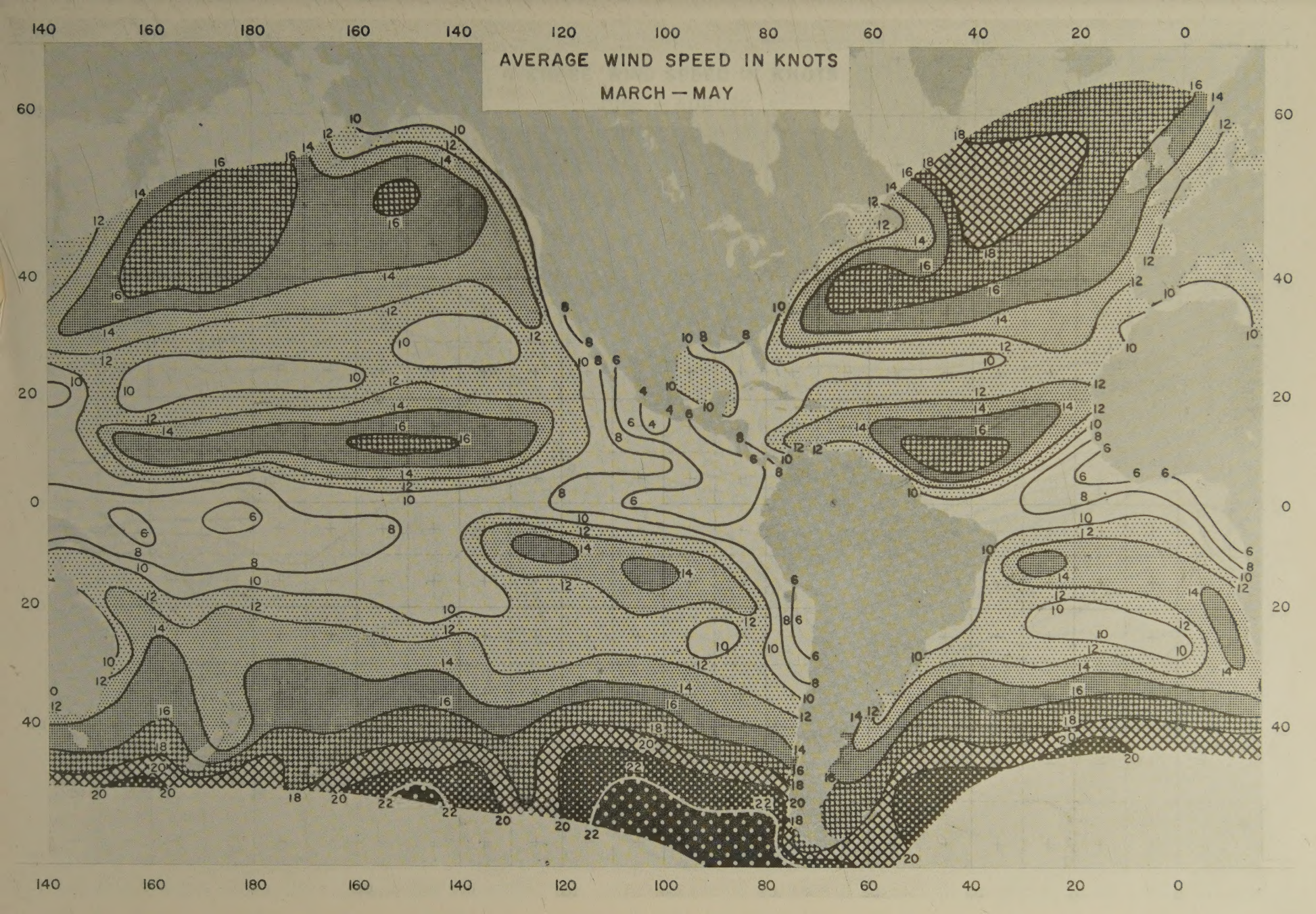
* Part I - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

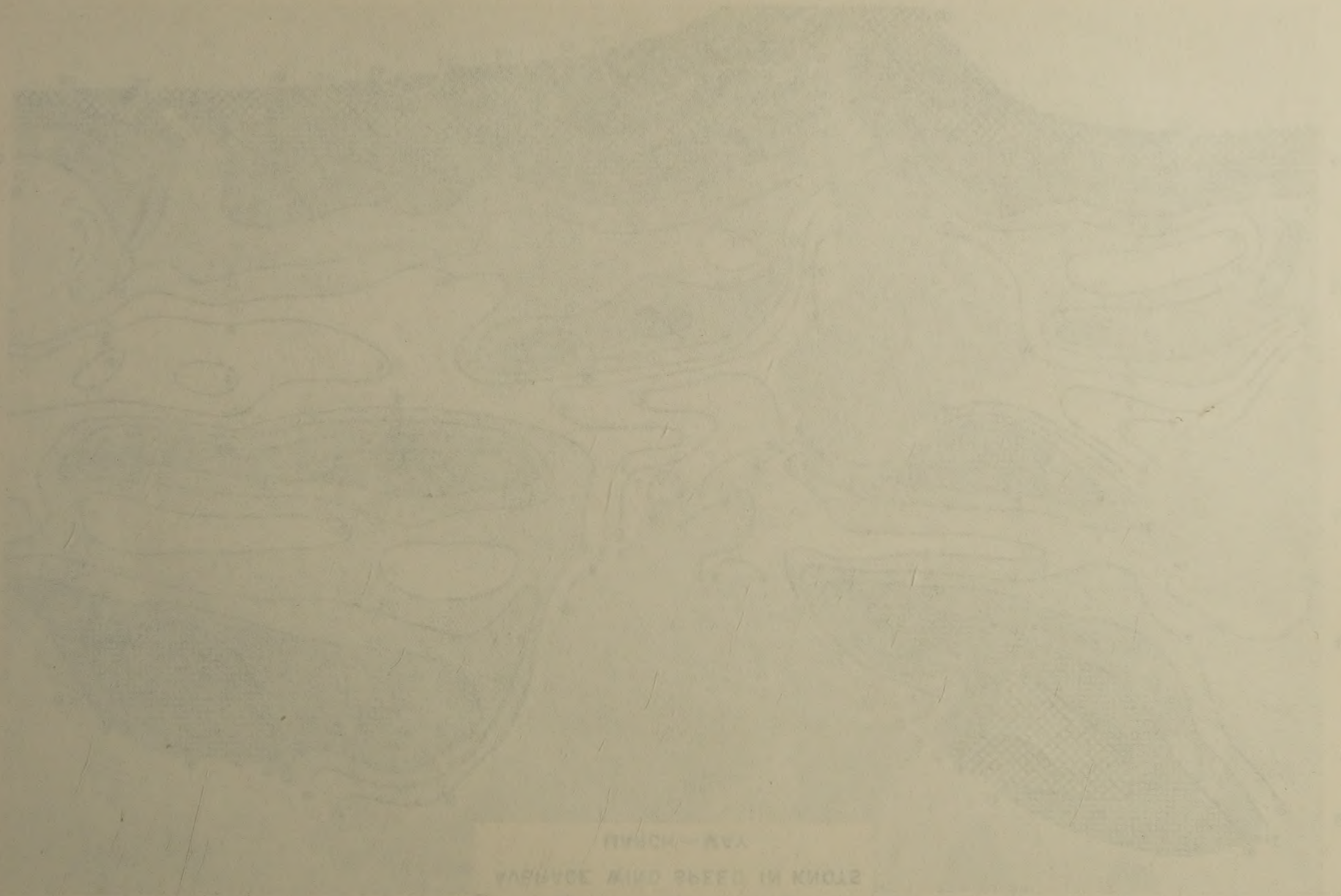
AVERAGE WIND SPEED CHARTS, ATLANTIC AND PACIFIC OCEANS

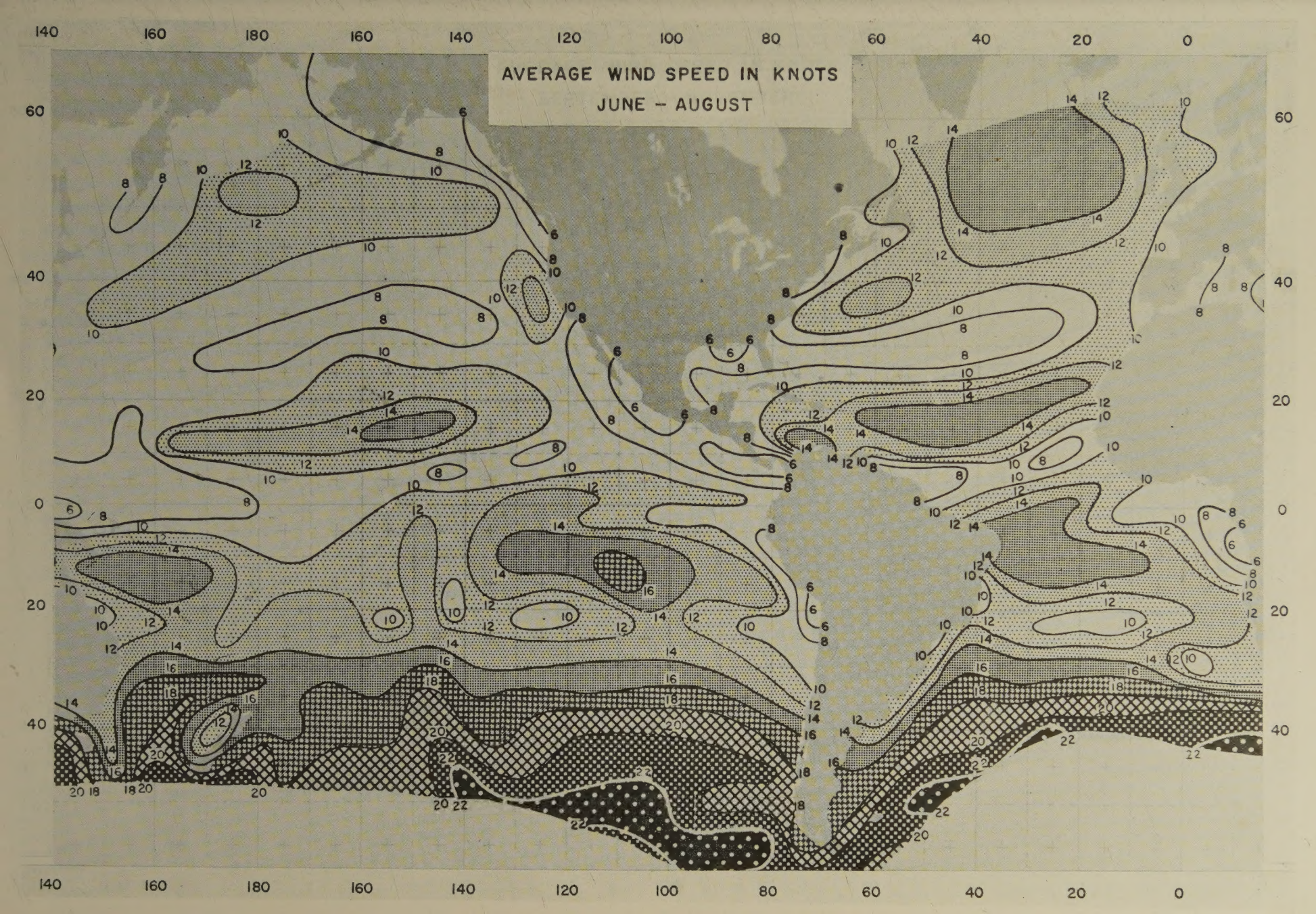
Success of tuna fishing operations by the U.S. west coast purse seine fleet is highly dependent upon wind conditions. The fleet now stands ready for exploration outside the region of normal fishing operations in the eastern tropical Pacific Ocean, and, as a consequence, masters of several fishing vessels are asking what meteorological and oceanographic conditions can be expected in other regions of the world. The recently published Fish and Wildlife Service Circular 165 entitled "Skipjack a World Resource" contains wind information for the four seasons from the coast of North America to longitude 180°W. and from latitude 20°S. to 30°N. It is likely, however, that explorations will cover a broader region than that presented in the Skipjack Circular, and for this reason charts presented here cover not only the Pacific Ocean but the Atlantic Ocean as well.

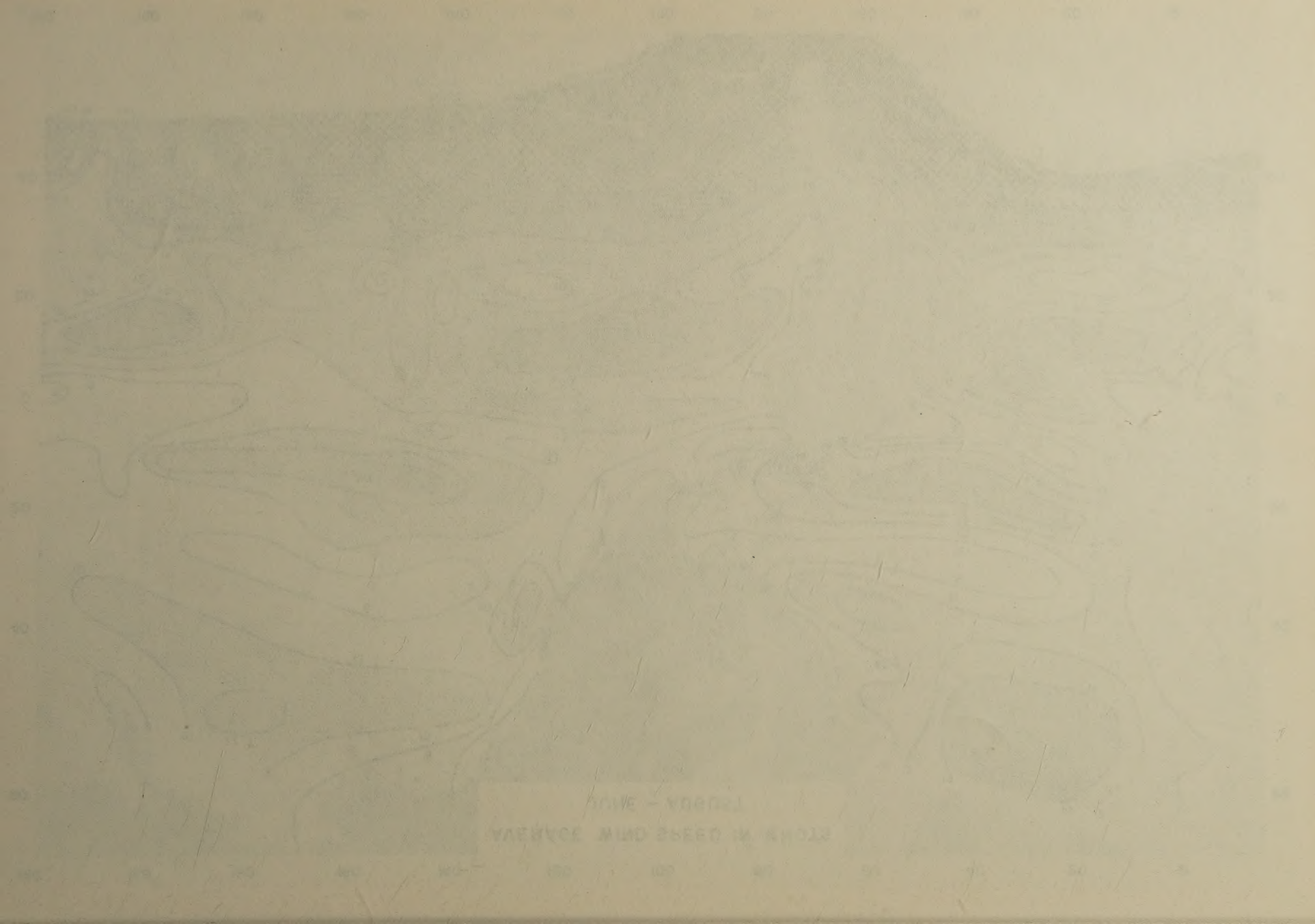
Charts were copied from U.S. Weather Bureau Publication 1247 "Atlas of the Climatic Charts of the Oceans". Although these charts were first published about twenty-five years ago, they still are among the best for representing average wind conditions over the Atlantic and Pacific Oceans.

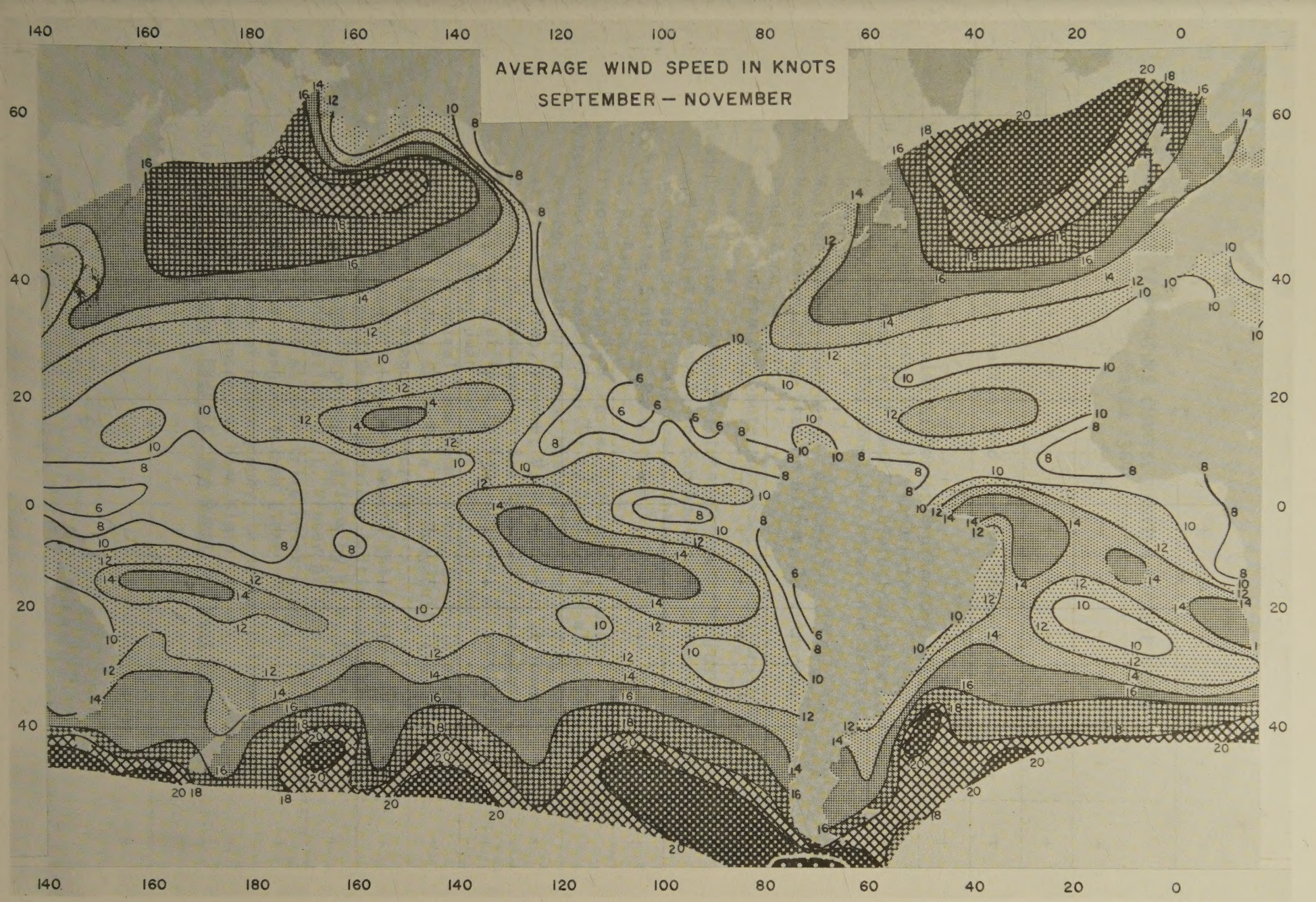

AVERAGE WIND SPEED IN KNOTS
DECEMBER — FEBRUARY
140
160
180
160
140
120
100
80
60
40
20
0
60
40
20
0
20
40


AVERAGE WIND SPEED IN KNOTS
MARCH — MAY
140 160 180 160 140 120 100 80 60 40 20 0
60 40 20 0 20 40




AVERAGE WIND SPEED IN KNOTS
JUNE – AUGUST
140 160 180 160 140 120 100 80 60 40 20 0
60
40
20
0
20
40




AVERAGE WIND SPEED IN KNOTS
SEPTEMBER — NOVEMBER
140 160 180 160 140 120 100 80 60 40 20 0
60
40
20
0
20
40

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
MARCH 1964

Acknowledgments

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U.S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington
U.S. Bureau of Commercial Fisheries Biological Laboratories, La Jolla, California; Honolulu, Hawaii and Seattle, Washington
U.S. Weather Bureau, San Diego, California
U.S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U.S. Weather Bureau Port Meteorological Office, Cristobal, Canal Zone
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Hopkins Marine Station, Pacific Grove, California by J. P. Balesteri
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Kelco Company, San Diego, California
Lifeguard Headquarters, Newport Beach, California
Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by R. W. Collins at Quatsino Lightstation; J. L. Fraser at Cape St. James Light; B. Stuart at Amphitrite Point Light; R. A. Smith at Langara Island Light
Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein
Ships Jo Linda, Royal Pacific, Sea Quest and West Point

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather-ship stations. Numerals on shore are temperatures at coastal and light-ship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder than mean.

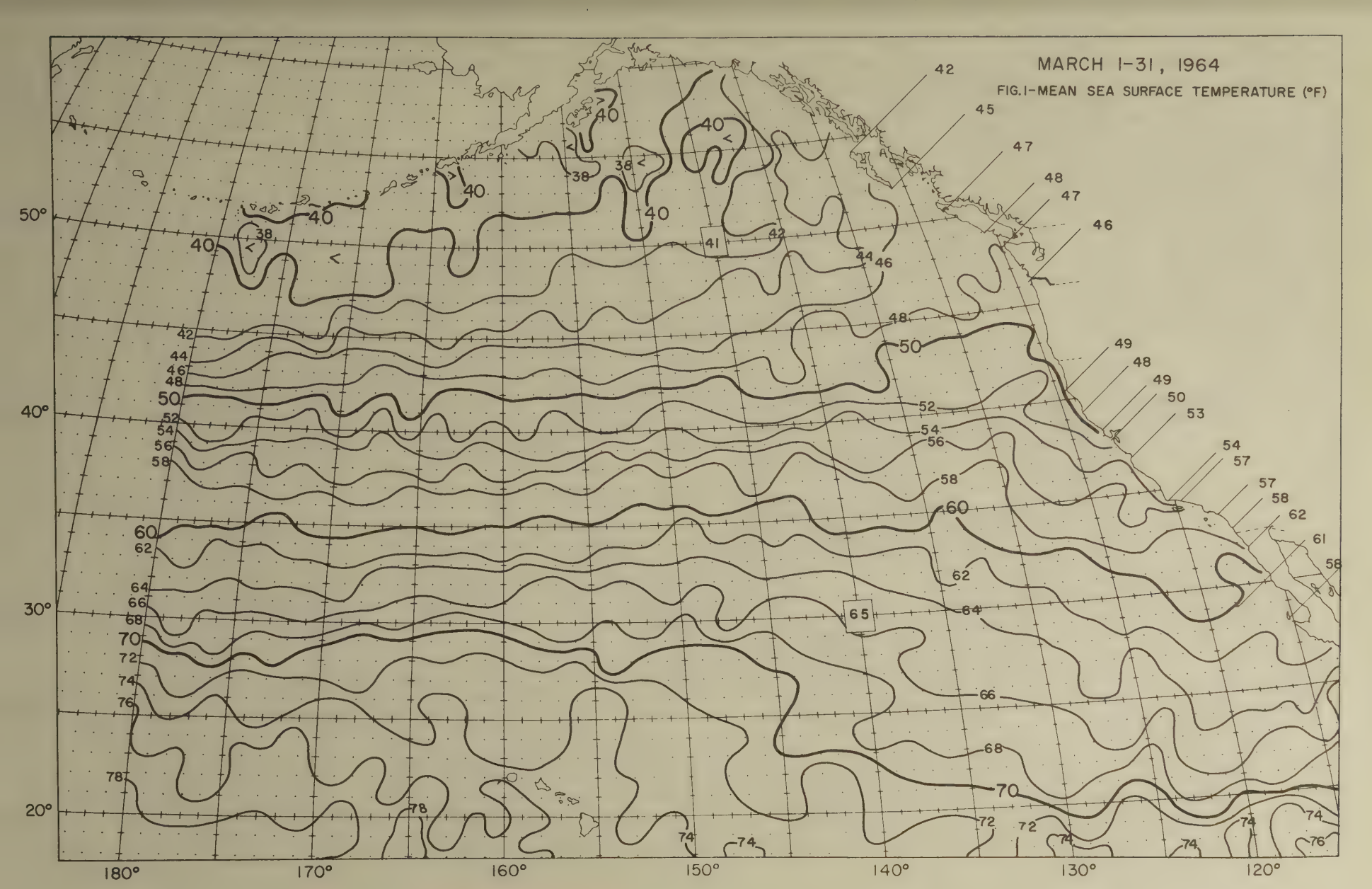
Figure 3.--Deviation of sea surface temperatures (°F) from those of March 1963. Hatched areas are colder than 1963.

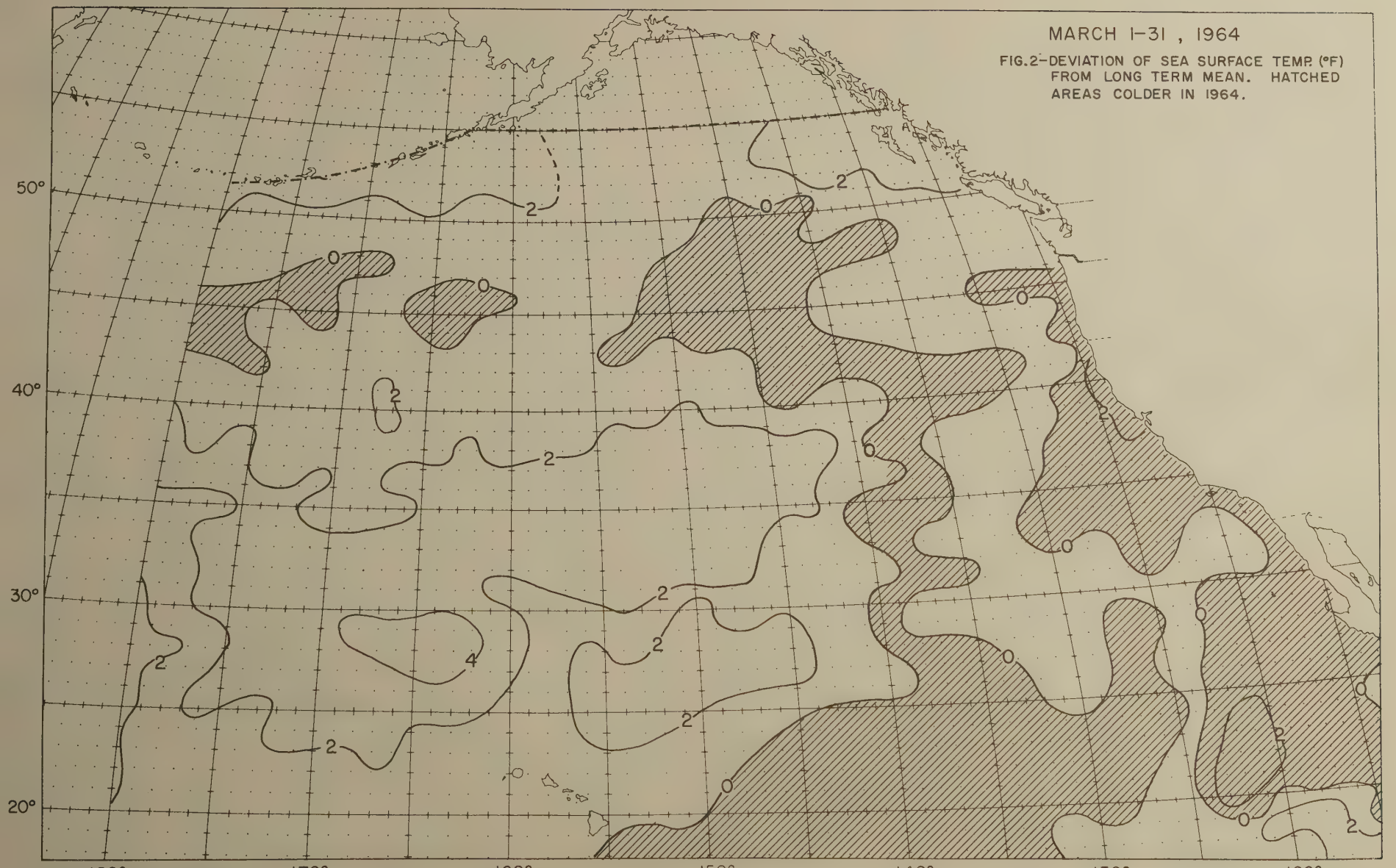
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

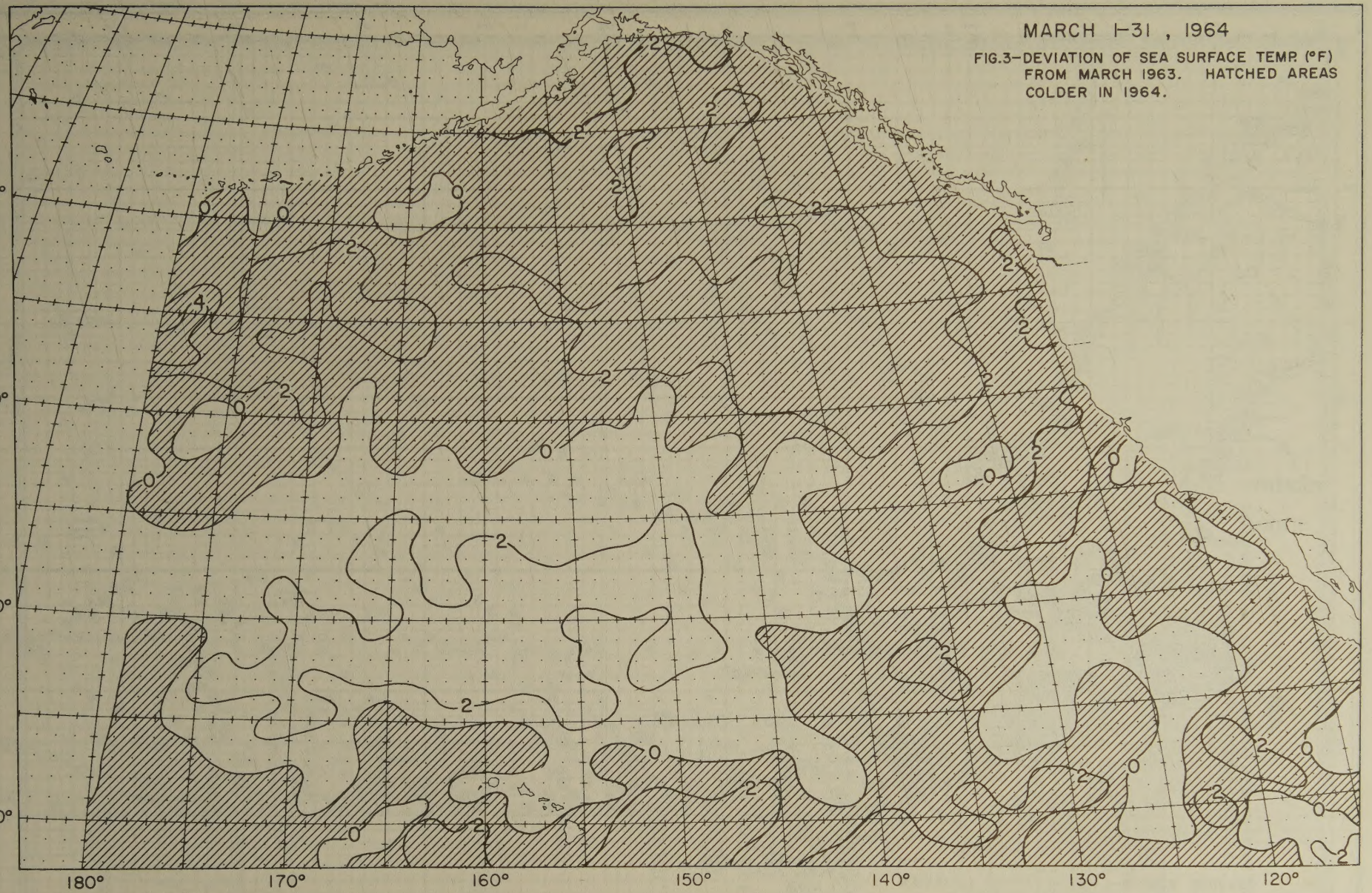
Figure 5.--Deviation of sea surface temperatures (°F) March 1964-March 1963 by 1-degree squares. Shaded areas are colder than 1963.

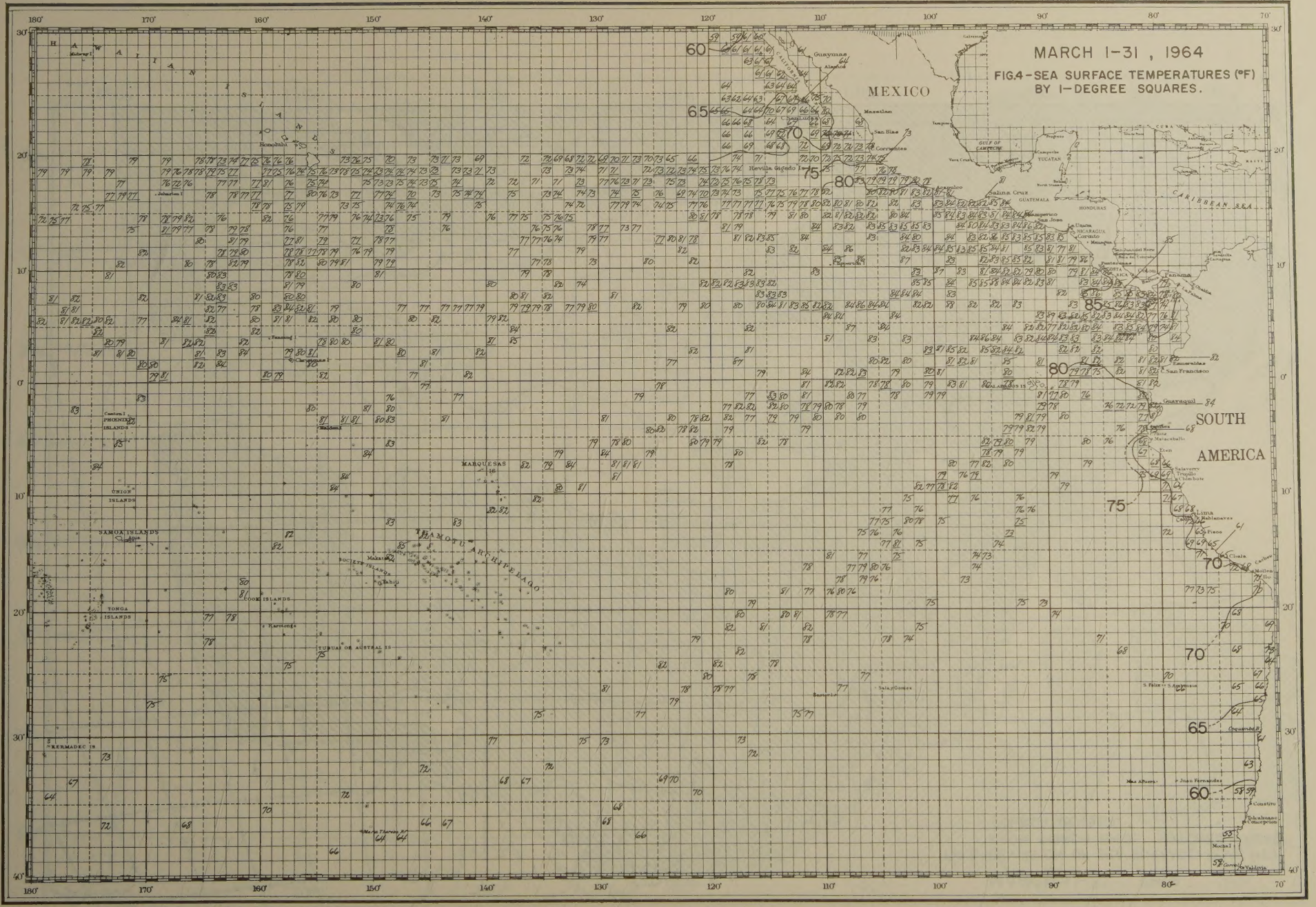
Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder than 1963.

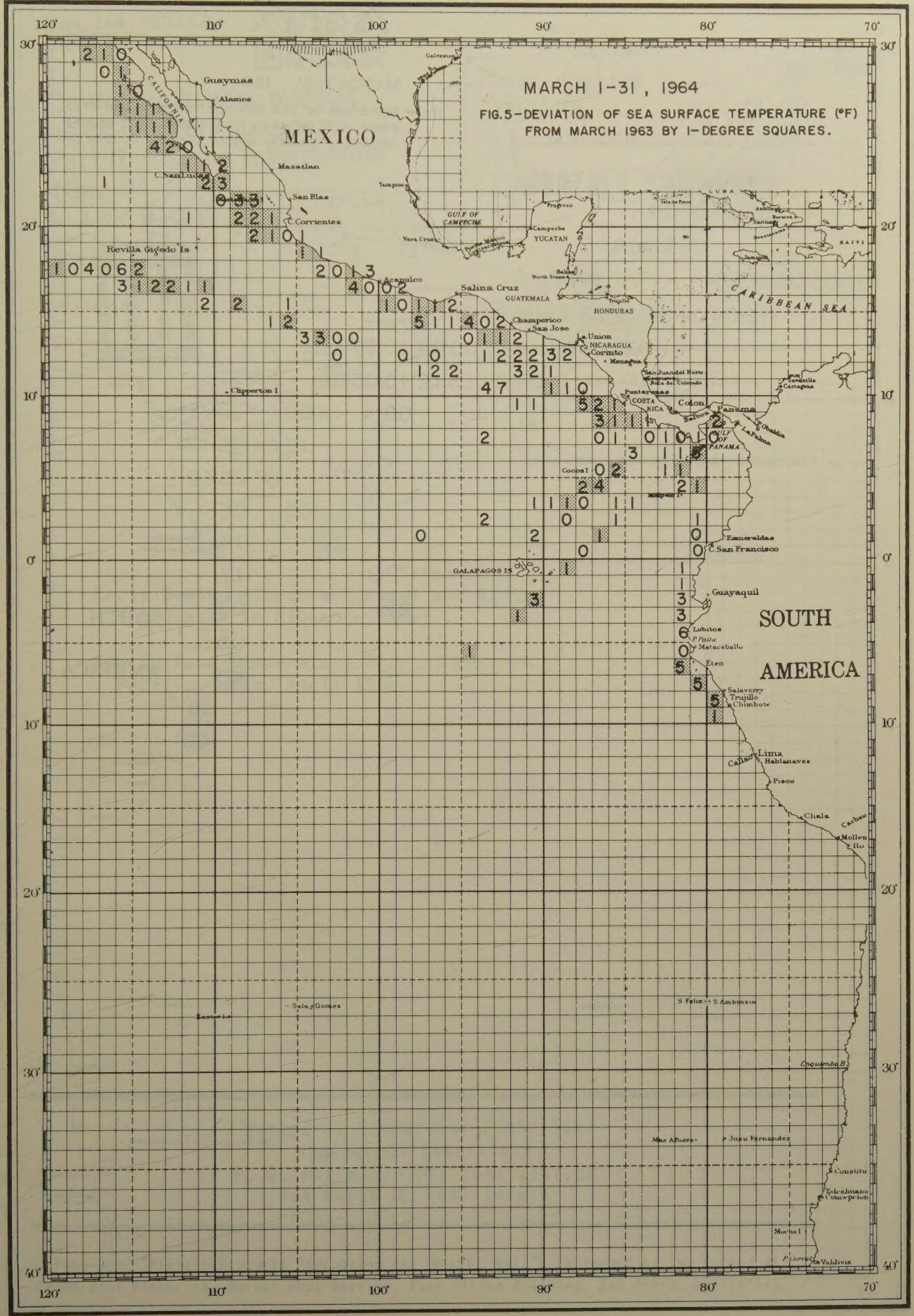
James A. Renner
Fishery Biologist (General)

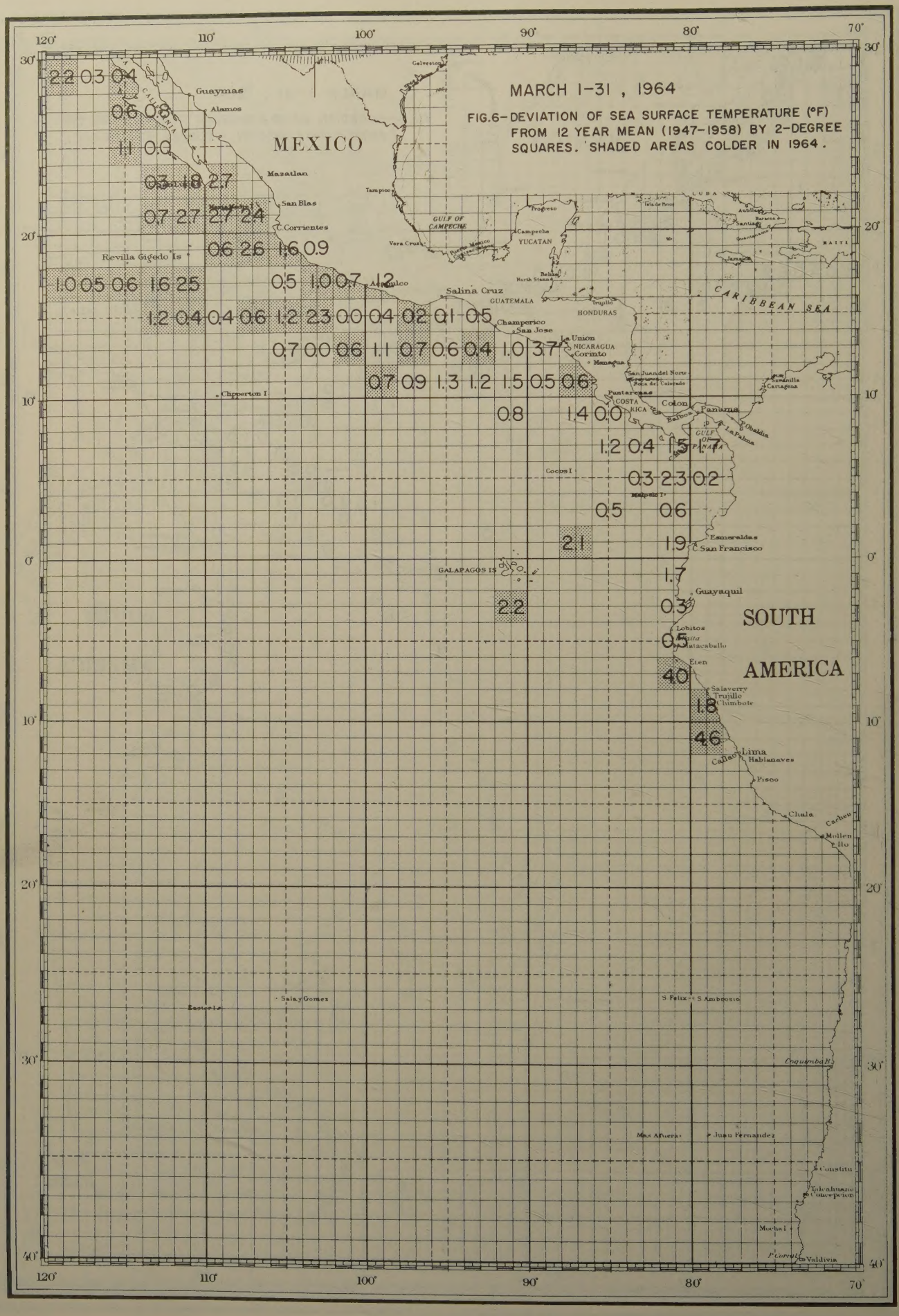

MARCH 1-31, 1964
FIG. 1-MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MARCH 1-31 , 1964
FIG.2-DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1964.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2
4
6


MARCH 1-31 , 1964
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F) FROM MARCH 1963. HATCHED AREAS COLDER IN 1964.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MARCH 1-31, 1964
FIG.4-SEA SURFACE TEMPERATURES (°F) BY 1-DEGREE SQUARES.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
HAWAIIAN ISLANDS
SAMOA ISLANDS
TONGA ISLANDS
COOK ISLANDS
TUAMOTU ARCHIPELAGO
MARQUESAS
PHOENIX ISLANDS
UNION ISLANDS
KERMADEC IS
TUBUAI OR AUSTRAL IS
Honolulu
Johnston I
Canton I
Fanning
Christmas
Palmyra
Tahiti
Rarotonga
Malden I
Easter I
Juan Fernandez
Mas Afuera
Guaymas
Mazatlan
San Blas
Acapulco
Salina Cruz
Tapachula
Puerto Barrios
Managua
Panama
Guayaquil
Callao
Lima
Arica
Iquique
Valparaiso
Concepcion
Talcahuano
Corral
Ancud
Yaldivia
60
65
70
75
80
85


MARCH 1-31, 1964
FIG. 5-DEVIATION OF SEA SURFACE TEMPERATURE (°F)
FROM MARCH 1963 BY 1-DEGREE SQUARES.
MEXICO
SOUTH
AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GULF OF PANAMA
CALIFORNIA
YUCATAN
GUATEMALA
HONDURAS
COSTA RICA
NICARAGUA
HAITI
CUBA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Cormto
Managua
Chipperton I
Punta Arenas
Colon
Panama
Cocos I
Esmeraldas
C. San Francisco
Guayaquil
Lobitos
P. Pitta
Mataca ballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Hablanaves
Pisco
Chala
Cachuo
Mollen
Ilo
Sala y Gomez
S. Felix
S. Ambrosio
Juan Fernandez
Mas Afuera
Constitu
Talcahuano
Concepcion
Mocha I
P. Corral
Valdivia
Coquimba B.


MARCH 1-31, 1964
FIG.6-DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1964.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GULF OF PANAMA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
C Corrientes
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Punta Arenas
Colon
Panama
Esmeraldas
San Francisco
Guayaquil
Lobitos
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Caclieu
Mollendo
Ilo
Arica
Iquique
Tocopilla
Antofagasta
Coquimbo
Valparaiso
Valdivia
Progreso
Campeche
YUCATAN
Belize
GUATEMALA
HONDURAS
COSTA RICA
Cocos I
Chippertom I
Revilla Gigedo Is
Sala y Gomez
Easter I
S Felix
S Ambrosio
Mas Afuera
Juan Fernandez
Mocha I
Tampico
Vera Cruz
Galveston
Havana
CUBA
JAMAICA
HAITI
Barranquilla
Cartagena
Rocas del Colorado
Obaldia
La Palma
Rebolo
Tala de Pinos
Matacabillo
Huacho
Mollendo
Constitu
Talcahuano
Concepcion